



August 28, 2015

Docket ID: **EPA-HQ-OPP-2014-0818**

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Subject: "Mitigation of Exposure to Bees from Acutely Toxic Pesticide Products."

Our scientific societies are nonprofit professional associations of academic research, extension, government, and industry scientists committed to improving the knowledge and management of weeds in managed and natural ecosystems. We appreciate the opportunity to comment on EPA's proposed rule for the "Mitigation of Exposure to Bees from Acutely Toxic Pesticide Products"

As agricultural professionals, we acknowledge the compelling seriousness of pollinator decline, the need to determine the causes, and implement measures based on sound science to alleviate this problem. Our **main concern is the hazard-based approach taken with this proposed rule**. The proposed rule removes consideration of the exposure component completely from the risk assessment process as well as a benefits assessment in determining the need for and appropriateness of risk mitigation steps. Because our societies are involved in weed and other unwanted vegetation management, we would like to focus on the three herbicide active ingredients in [Appendix A](#). Our intent is to argue for maintaining the maximum utility of these materials while still making allowance for the protection of bees. The three herbicides are:

1. **Diuron** is a systemic substituted phenylurea photosystem II inhibitor (WSSA Group 7). Diuron is used on a variety of fruit and nut crops, grains, cotton, corn, sorghum, mint, gum, asparagus, sugarcane, seed crops, coffee, hay, cut flowers, and for fallow and idle cropland use. It may be used in irrigation and drainage systems when water is not present. Diuron also has widespread use in non-agricultural applications, especially industrial and rights-of-way uses, where it is often in combination with other herbicides to provide total vegetation control. In the [2003 Reregistration Eligibility Decision for](#)

[Diuron](#), it was classified as “practically nontoxic” to honey bees (*Apis mellifera*) with an LD₅₀ = 145 ug /bee. This value is more than 10x greater than the 11 ug/bee threshold that the Agency considers acutely toxic to bees in this proposed rule. It appears that the Agency is aware of this because in the “supporting studies” document ([Docket ID: EPA-HQ-OPP-2014-0818-0109](#)) for diuron, it states “**Review of existing acute contact toxicity does not meet the criteria for inclusion in Appendix A**”. We agree with this and recommend removing diuron from Appendix A.

2. **Sethoxydim** is a cyclohexanedione herbicide (WSSA Group 1), which inhibits the enzyme acetyl-Co-A carboxylase. It is a selective postemergence herbicide used to control annual and perennial grass weeds in broad-leaved vegetable, fruit, field and ornamental crops. In the [2005 Reregistration Eligibility Decision for Sethoxydim](#), it was stated that: “**Sethoxydim is practically non-toxic to honey bees. Adverse effects to beneficial insects are not expected at maximum label rates**”. However, in the [EPA ECOTOX database](#), sethoxydim toxicity to honey bee (*Apis mellifera*) at 48 hrs is reported as LD₅₀ = 10 ug/bee, which, by default, puts sethoxydim in Appendix A of the proposed rule. Other cyclohexanedione herbicides, such as clethodim and tralkoxydim, are not toxic to bees, with honey bee LD₅₀ values that are > 100 ug/bee (ECOTOX). We recommend removing sethoxydim from Appendix A.
3. **Bensulide** is the only member of the organophosphate class of herbicide. Bensulide inhibits meristematic root tissues and inhibits seedling growth (WSSA Group 8) and is used for selective preemergence control of certain grass and broadleaf weeds in agricultural and vegetable crops, golf courses, turf farms, and in landscaping applications. There is conflicting data on whether bensulide is above or below the LD₅₀ of 11 ug/bee threshold. In the ECOTOX database and the [2012 EPA Report on the Risks of Bensulide Use to Threatened and Endangered Species](#), the honey bee (*Apis mellifera*) acute toxicity is reported as LD₅₀ = 24 ug/bee, but in Atkins *et al* 1975¹, it is reported as 1.6 ug /bee. Regardless, bee exposure will be very minimal because bensulide **can only be applied if: 1) it is incorporated into bare soil or 2) it is watered in immediately following preemergence applications**. In other words, unless bees are actually sprayed with the material, they will have a very minimal exposure, but this is not considered in the proposed hazard based approach. In addition, there are already bee exposure warnings required on all bensulide product labels: “**this product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area**”. Given the application restrictions and existing exposure warnings on all bensulide product labels, we recommend removing bensulide from Appendix A.

¹ Atkins, E.L.; Greywood, E.A.; Macdonald, R.L. (1975) Toxicity of Pesticides and Other Agricultural Chemicals to Honey Bees: Laboratory Studies. By University of California, Dept. of Entomology. UC, Cooperative Extension. (Leaflet 2287; published study.)

In addition to the information above, the three herbicides are never mentioned anywhere in EPA's adverse incident reports for honey bees and other pollinators and pesticide products from 1995 to the present (Docket ID: [EPA-HQ-OPP-2014-0818-0218](#)). This includes documents, records, and materials contained in and relating to the Agency's Incident Data System (IDS), Ecological Incident Information System (EIIS), and FIFRA 6(a)(2) records.

EPA has indicated that implementation of the planned label changes would occur before 2016. To do so, EPA would have to assess the thousands of labels that these 76 active ingredients are a part of and indicate what changes are needed. In addition, the proposed timeline would not allow time for pesticide users to participate substantially in any mitigation discussions.

We appreciate this opportunity to comment on the proposed rules for "Mitigation of Exposure to Bees from Acutely Toxic Pesticide Products" and look forward to working with the Agency on this important topic.

Sincerely,



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cc: House Committee on Agriculture
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